



# HVG Isomerised Kettle Extract

## **Material Safety Data Sheet** (according to the EEC/ISO standards)

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## 1 Identification of the substance / preparation and company

- Name of the material or preparation

Product code: IKE – Isomerised Kettle Extract  
(customs tariff code 1302 13 00)  
Product name / commercial name: HVG-IKE

- Details on manufacturer (partly owned by supplier):

NATECO<sub>2</sub> GmbH & Co. KG  
Auenstr. 18 – 20 , 85283 Wolnzach (Germany)  
Telephone +49-8442/660,  
Telefax: +49-8442/6666

- Details on supplier:

HVG Hopfenverwertungsgenossenschaft e.G.  
Kellerstr. 1 , 85283 Wolnzach (Germany)  
Telephone +49-8442/957-100  
Telefax: +49-8442/957-169  
e-mail: contact@hvg-germany.de

- Date of preparation of MSDS: 23.11.2010

- Date of revision of MSDS: 15.03.2011

## 2 Composition / information on ingredients

- Chemical characterisation

The HVG-IKE extract contains the non-polar substances of the flower of the hops plant (*humulus lupulus*) which have been extracted by means of supercritical CO<sub>2</sub> using HVG-CO<sub>2</sub> as the basis for the product extract. The extract is a mixture of the aromatic substances of the hops (hop oils) and the bittering resins (humulones and lupulones).

According to the EBC (European brewery convention) Manual of good practice for Hops and Hop Products (ISBN3-418-00758-9) the process of producing IKE is the following:

“[Isomerized Kettle Extract is obtained by] mixing and heating pure resin extract with Magnesium Oxide. No water is added during this isomerisation process. Addition rates for magnesium oxide are typically in the range of 3% to 6% of weight of extract, for a pure resin extract containing 50% alpha acids. After completion of isomerisation, the iso-alpha-acids are present as a magnesium salt.[...] The magnesium iso-alpha-acid salts are converted by treatment with acid to the free acids, yielding an isomerized kettle extract which exhibits handling characteristics very similar to conventional pure resin extract.”



- Typical characterisation of IKE

Iso-  $\alpha$  – acids (resins): between 25% to 55% w/w  
 $\beta$  – acids (resins): between 15% to 35% w/w  
essential oils: up to 10% w/w

### 3 Hazard identification

No health hazards, non-toxic in normal use

### 4 First aid measures

- General information: In normal use no health hazards known. Extracts can generally be recommended as safe (GRAS).
- Inhalation: Not applicable
- Skin contact: May be slightly irritating  
Wash contacted area with warm soapy water. Wash contaminated clothing before re-use.
- Eye contact: May be irritating  
Wash affected eye with plenty of pure water. Seek medical attention if irritation persists.
- Oral ingestion: It is an extremely bitter substance and may be irritating to mouth, throat and stomach. Drink plenty of milk or water to dilute and fruit juice to neutralise bitterness. Vomiting is possible but should not be induced.
- Instructions for physician: Not applicable

### 5 Fire fighting measures

Packing: Cartons and wooden pallets are flammable. Extinguishing media foam, water or CO<sub>2</sub>

Product: No known unusual fire and explosion hazards



## 6 Accidental release measures

Take up with absorbent material and place into container for later disposal. Flush area with hot water to remove residues.

## 7 Handling and storage

Handling: No special requirements  
Storage (durability): No special precautions necessary  
Out of quality reasons IKE should be used as soon as possible after opening the packaging.

Recommended storing conditions:

at 10 - 15 °C: up to 2 years  
at 0 - 5 °C: up to 5 years

## 8 Exposure controls and personal protection

- Additional information on construction of technical installations  
*not applicable*
- Components important for workshop security (limits to be controlled)  
*not applicable*
- Personal protective equipment

Rubber gloves are advisable to avoid accidental contact  
Protective goggles are advisable to avoid accidental contact

## 9 Physical and chemical properties

- Appearance  
Form: viscous extract, waxy  
Colour: green to green-yellowish  
Odour: typical hoppy, resinous
- Safety data  
pH: acid  
Change of state: not applicable  
Flash point: not applicable  
Inflammability: not applicable  
Ignition temperature: not applicable  
Spontaneous ignition: not applicable  
Explosion limits:  
- min: not applicable  
- max: not applicable  
Vapor pressure: not applicable  
Density: 0.85 – 1.00 kg/l  
Solubility: soluble in nearly all organic solvents,  
water causes formation of an emulsion



## 10 Stability and reactivity

Hop constituents oxidise in contact with air, no hazardous reactivity known.

## 11 Toxicological information

Product is used for beer brewing and can generally be recommended as safe (GRAS).

## 12 Ecological information

The product is all natural and biodegradable

## 13 Disposal considerations

Dispose of in accordance with local regulations involved for organic non hazardous product.  
Packaging material (wooden pallets, cartons, foils ) to be recycled.

## 14 Transport information

- Road transport:  
Warning board: not applicable  
GGVS/GGVE-classification: not applicable  
UN-No.: not applicable
- Transport on inland waterways:  
Class/no/letter: not applicable
- Marine transport:  
Class: not applicable
- Air transport:  
Class: not applicable
- Further information:  
None hazardous product  
Comply with applicable state regulations



## 15 Regulatory information

- Identification according to EU-regulations:

Hazard identification: not applicable  
Product contains: not applicable  
R-phrases: not applicable  
S-phrases: not applicable  
Further information: not applicable

- National federal regulations:

Information on workshop limit:	not applicable
Regulation on hazardous incidents:	not applicable
Regulation on flammable liquids VbF:	not applicable
TA air:	not applicable
Water hazard classification:	not applicable
Further regulations on restrictions and prohibitions:	not applicable

## 16 Other information

The product has been produced according to the national health regulations.

The above information is based on the current state of knowledge of our product at the time of publication and is furnished without warranty of any kind. The user must satisfy himself that the product is entirely suitable for his purposes.